

Australian vocational education and training statistics

# VET program completion rates 2011–15

National Centre for Vocational Education Research



## Highlights

This publication uses statistical techniques to estimate completion rates for government-funded vocational education and training (VET) programs (defined as all Commonwealth and state/territory government-funded programs delivered by technical and further education [TAFE] institutes, other government providers [such as universities], community education providers and other registered providers).

For government-funded VET programs commencing in 2015:

- The national estimated completion rate for programs at certificate I and above was 49.4%, up from 44.7% for programs commenced in 2014.
- By level, programs at diploma and above (56.8%), certificate III (55.1%), and certificate IV (52.3%) had the highest national estimated completion rates.
- By field of education, programs in natural and physical sciences (63.4%), society and culture (59.6%), and health (58.8%) had the highest national estimated completion rates.
- For students in full-time study aged 25 years and under with no prior post-school program completion, the national estimated completion rate for programs at certificate I and above was 58.3%, up from 54.9% for programs commenced in 2014.

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## Introduction

The Australian vocational education and training (VET) system provides training across a wide range of subject areas and is delivered through a variety of training institutions and enterprises (including to apprentices and trainees). The system provides training for students of all ages and backgrounds. Students may study individual subjects or full programs that lead to formal program completions.

This publication estimates the completion rates of government-funded VET programs in Australia (broadly defined as all Commonwealth and state/territory government-funded programs [either Commonwealth or state recurrent funding, Commonwealth specific purpose funding or state specific funding]), in order to fill a gap in performance measures for the VET sector.

Program completion rates are contrasted with subject load pass rates, which express the weighted percentage of successfully completed subjects, in each table of this publication.

Completion rates in this publication have been derived using an improved methodology, from previously published reports. The improved methodology is outlined in the explanatory notes on page 9.

## About this publication

This publication is prepared in accordance with scope definitions outlined in the explanatory notes section on page 9.

This publication displays projected rates of completion for the most recent three years and observed actual rates of completion for prior years. Figures in bold are actual observed completion rates. Note that these projected rates of completion may not be directly comparable across jurisdictions, with rates being impacted by differing jurisdictional enrolment practices and funding policies.

Completion rates previously published in *Australian vocational education and training statistics: the likelihood of completing a government funded VET program 2010–2014* have been backdated in this publication using the improved methodology and to align with the new scope of *Australian vocational education and training statistics: government-funded students and courses 2016*.

## More information

For the underlying subpopulation of the projected completion rates, please see the supporting Excel document available at <<https://www.ncver.edu.au/publications/publications/all-publications/VET-program-completion-rates-2011-15>>.

For additional information on completion rates in the wider VET sector, including completion and attrition rates for apprentices and trainees, please refer to *Lifting the lid on completion rates in the VET sector: how they are defined and derived*, available at <<http://www.ncver.edu.au/publications/2467.html>>.

# Tables

**Table 1** Observed actual and projected program completion rates and subject load pass rates by state and territory for government-funded programs at certificate I and above, commencing in 2011–15

State or territory	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
New South Wales	37.6	38.6	37.4	46.2	52.5	79.7	79.1	78.7	80.2	79.0
Victoria	40.6	39.5	37.1	42.3	47.3	82.7	83.7	83.6	81.8	80.1
Queensland	42.4	40.2	43.0	53.5	58.1	90.0	89.1	89.6	92.5	93.4
South Australia	37.0	45.0	43.5	41.0	43.4	83.5	86.5	87.2	86.0	86.8
Western Australia	38.6	39.0	38.7	39.5	40.0	80.6	80.6	81.8	82.4	83.6
Tasmania	39.9	37.9	37.6	44.9	49.0	81.0	81.6	80.1	80.3	81.5
Northern Territory	27.1	33.4	35.0	38.4	42.9	74.5	77.2	78.8	73.9	81.8
Australian Capital Territory	40.3	38.4	47.2	40.1	45.6	83.2	81.5	84.7	85.0	84.6
<b>Australia</b>	<b>39.5</b>	<b>39.7</b>	<b>39.0</b>	<b>44.7</b>	<b>49.4</b>	<b>82.7</b>	<b>83.0</b>	<b>83.2</b>	<b>83.2</b>	<b>83.3</b>

Projected rates of completion may not be directly comparable across jurisdictions, with rates being impacted by differing jurisdictional enrolment practices and funding policies.

For explanatory notes see page 9.

**Table 2** Observed actual and projected program completion rates and subject load pass rates by state and territory for government-funded programs at certificate I and above, commencing in 2011–15, for full-time students, aged 25 years and under, with no prior post-school program completion

State or territory	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
New South Wales	51.2	51.7	50.7	57.1	56.5	75.0	75.7	76.4	78.1	73.4
Victoria	41.9	44.3	37.0	51.8	56.9	79.5	81.2	82.1	81.7	79.9
Queensland	52.2	56.2	57.5	66.3	67.2	87.9	87.3	87.7	90.9	91.2
South Australia	44.7	44.1	47.2	48.8	53.8	83.8	86.3	88.3	86.4	85.6
Western Australia	48.8	51.6	51.2	52.9	53.8	79.0	79.4	79.3	80.8	79.8
Tasmania	72.7	69.4	72.1	53.2	71.4	84.4	93.2	84.7	81.2	82.3
Northern Territory	53.8	60.9	62.0	73.1	76.5	81.3	84.1	90.0	73.7	88.7
Australian Capital Territory	76.9	87.1	81.5	67.7	83.6	87.1	71.1	70.6	77.3	89.8
<b>Australia</b>	<b>45.8</b>	<b>47.3</b>	<b>43.4</b>	<b>54.9</b>	<b>58.3</b>	<b>79.3</b>	<b>80.4</b>	<b>81.2</b>	<b>81.7</b>	<b>80.4</b>

Projected rates of completion may not be directly comparable across jurisdictions, with rates being impacted by differing jurisdictional enrolment practices and funding policies.

Shaded cells indicate that completion rates are based on small subpopulations and should be interpreted with caution.

For explanatory notes see page 9.

**Table 3 Observed actual and projected program completion rates and subject load pass rates by program level for government-funded programs at certificate I and above, commencing in 2011–15**

Program level	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Diploma and above	46.5	49.5	51.1	53.1	56.8	82.8	82.9	82.4	83.1	82.9
Certificate IV	45.0	46.1	42.6	46.7	52.3	82.2	81.6	81.2	82.5	82.1
Certificate III	46.8	47.4	45.2	49.3	55.1	85.4	86.1	86.7	86.4	86.5
Certificate II	28.7	28.0	30.1	39.0	46.4	78.8	78.8	80.0	78.6	80.4
Certificate I	19.7	21.0	23.6	24.9	29.9	67.8	70.0	70.2	63.4	63.1
<b>Total</b>	<b>39.5</b>	<b>39.7</b>	<b>39.0</b>	<b>44.7</b>	<b>49.4</b>	<b>82.7</b>	<b>83.0</b>	<b>83.2</b>	<b>83.2</b>	<b>83.3</b>

For explanatory notes see page 9.

**Table 4 Observed actual and projected program completion rates and subject load pass rates by program level for government-funded programs at certificate I and above, commencing in 2011–15, for full-time students, aged 25 years and under, with no prior post-school program completion**

Program level	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Diploma and above	45.0	46.2	49.7	52.2	64.1	78.0	78.8	78.8	78.8	78.5
Certificate IV	46.7	50.4	41.2	47.4	53.6	78.9	78.1	78.0	79.6	81.4
Certificate III	57.4	61.4	53.7	63.9	66.0	83.0	85.1	86.1	85.5	82.7
Certificate II	38.1	40.5	38.1	49.7	56.9	74.8	76.8	77.7	79.0	78.2
Certificate I	22.3	18.5	24.4	32.2	38.4	63.9	57.8	61.3	65.5	64.2
<b>Total</b>	<b>45.8</b>	<b>47.3</b>	<b>43.4</b>	<b>54.9</b>	<b>58.3</b>	<b>79.3</b>	<b>80.4</b>	<b>81.2</b>	<b>81.7</b>	<b>80.4</b>

For explanatory notes see page 9.

**Table 5 Observed actual and projected program completion rates and subject load pass rates by program field of education for government-funded programs at certificate I and above, commencing in 2011–15**

Field of education	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Natural and physical sciences	49.8	54.7	53.5	54.4	63.4	80.2	83.4	84.7	87.6	87.8
Information technology	32.9	30.7	30.5	33.8	36.4	71.0	70.1	69.8	71.5	73.7
Engineering and related technologies	40.6	39.9	40.0	45.1	49.7	86.5	87.6	89.4	89.1	89.9
Architecture and building	31.6	36.0	36.9	38.5	39.6	84.6	85.6	86.9	86.7	88.6
Agriculture, environmental and related studies	31.1	36.3	32.8	36.4	39.2	85.7	88.1	86.1	86.5	84.8
Health	44.1	45.2	48.7	51.0	58.8	82.2	82.2	81.6	82.9	81.5
Education	54.1	59.0	52.7	46.7	51.0	87.8	86.8	88.8	82.2	83.7
Management and commerce	45.2	49.3	48.4	54.4	56.2	84.8	84.3	84.2	85.3	84.3
Society and culture	51.9	52.1	50.7	55.5	59.6	84.0	83.0	82.1	82.8	81.1
Creative arts	35.5	36.5	39.1	44.3	49.1	77.4	78.3	78.5	78.7	78.8
Food, hospitality and personal services	28.7	31.7	33.7	37.8	46.5	83.9	86.4	87.7	87.7	88.1
Mixed field programs	19.0	18.9	21.4	27.5	30.9	64.2	67.0	68.7	65.2	63.7
<b>Total</b>	<b>39.5</b>	<b>39.7</b>	<b>39.0</b>	<b>44.7</b>	<b>49.4</b>	<b>82.7</b>	<b>83.0</b>	<b>83.2</b>	<b>83.2</b>	<b>83.3</b>

For explanatory notes see page 9.

**Table 6 Observed actual and projected program completion rates and subject load pass rates by program field of education for government-funded programs at certificate I and above, commencing in 2011–15, for full-time students, aged 25 years and under, with no prior post-school program completion**

Field of education	Program completion rate (%)					Subject load pass rate (%)				
	Observed actual		Projected							
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Natural and physical sciences	47.6	53.8	54.4	59.3	65.9	72.7	76.5	79.7	83.5	86.9
Information technology	37.6	38.2	39.8	39.5	42.6	68.8	67.7	67.5	66.4	69.7
Engineering and related technologies	44.9	48.2	46.8	60.7	60.2	81.6	83.2	86.0	85.8	85.3
Architecture and building	42.1	43.7	49.6	49.5	56.0	78.1	81.7	81.7	83.7	81.3
Agriculture, environmental and related studies	48.0	53.8	53.5	55.6	56.0	84.2	86.7	84.7	84.4	80.9
Health	54.1	52.9	50.7	56.1	62.0	78.9	78.3	78.0	80.3	79.4
Education	56.9	54.5	18.6	57.4	60.5	80.1	80.7	96.6	80.3	77.1
Management and commerce	48.7	62.4	54.1	64.0	66.5	80.2	84.1	84.6	85.6	84.0
Society and culture	64.3	65.6	58.3	66.5	72.8	84.9	80.6	77.8	79.7	79.1
Creative arts	43.4	41.0	45.9	47.4	54.4	76.7	78.0	78.6	78.2	76.4
Food, hospitality and personal services	42.2	58.7	54.6	46.3	52.4	79.5	86.2	88.7	87.8	88.6
Mixed field programs	22.8	18.5	20.2	33.8	39.6	65.6	64.2	64.9	67.8	66.5
<b>Total</b>	<b>45.8</b>	<b>47.3</b>	<b>43.4</b>	<b>54.9</b>	<b>58.3</b>	<b>79.3</b>	<b>80.4</b>	<b>81.2</b>	<b>81.7</b>	<b>80.4</b>

Shaded cells indicate that completion rates are based on small subpopulations and should be interpreted with caution.

For explanatory notes see page 9.

# Terms

Information included in this publication is, unless stated otherwise, derived from the National VET Provider Collection, which is compiled under the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS). For other terms and definitions, refer to the terms and definitions support document at <<https://www.ncver.edu.au/publications/publications/all-publications/government-funded-students-and-courses-2016>>.

**Australian Qualifications Framework (AQF)** is a nationally consistent framework of credentials offered in post-compulsory education and training that covers programs from certificate I through to a doctoral degree. For more details on the AQF, go to <<http://www.aqf.edu.au>>.

**Field of education** is the subject matter of an educational activity. The framework used here is defined in the Australian Standard Classification of Education (ASCED), created by the Australian Bureau of Statistics. See <<http://www.abs.gov.au/ausstats/abs@.nsf/DetailsPage/1272.02001>> for more details.

**Full-time students** are those students whose program of study constitutes at least 75% of the normal full-time study load. The Australian Government Department of Education and Training regards a full-time study load as 720 contact hours in a year. Therefore, any student undertaking 540 hours or more is regarded as a full-time student.

**Observed actual program completion rates** are based on the proportion of the commencing cohort completing.

**Program enrolment** is the registration of a student at a training organisation for the purpose of undertaking a module, unit of competency or subject, which leads to or is part of a recognised program.

**Projected program completion rate** is the percentage of programs that are estimated to be completed, according to statistical modelling developed by NCVER. For more details, see

*The likelihood of completing a VET qualification: a model-based approach*, available at <<http://www.ncver.edu.au/publications/2272.html>> and for recent improvements see *VET program completion rates: an evaluation of the current method* available at <<http://www.ncver.edu.au/publications/2898.html>>.

**Students** are individuals who were enrolled in a subject or completed a program during the reporting period.

**Subject load pass rate** is the ratio of hours, or full-year training equivalents (FYTEs), attributed to students who gain competencies/passed assessment in an assessable module or unit of competency to all students who were assessed and either passed, failed or withdrew. The calculation is based on the annual hours (or FYTEs) for each assessable module or unit of competency and includes competencies achieved/units passed through recognition of prior learning (RPL).

**Vocational education and training (VET)** is that education (excluding higher education) which gives people work-related knowledge and skills.



# Explanatory notes

## Data source

1. Information contained in this publication is, unless stated otherwise, derived from the National VET Provider Collection, which is compiled under the Australian Vocational Education and Training Management Information and Statistical Standard (AVETMISS). In 2014, Release 7.0 came into effect. For further information go to <<http://www.ncver.edu.au/avetmiss/21055.html>>.
2. The activity covered in this publication applies the same scope as used in *Australian vocational education and training statistics: government-funded students and courses 2016*. The tables provide information on all Commonwealth and state/territory government-funded vocational education and training delivered by:
  - TAFE institutes and other government VET providers
  - multi-sector higher education institutions
  - community education
  - other registered providers.
3. This publication does not cover the following types of training activity:
  - recreation, leisure and personal enrichment
  - fee-for-service VET by TAFEs, other government, community education and private providers
  - delivery undertaken at overseas campuses of Australian VET institutions
  - credit transfer
  - superseded training reported with national outcome identifier '61 – superseded training'
  - VET delivered in schools, where the training activity was undertaken as part of a senior secondary certificate
  - any activity where revenue was earned from another registered training organisation in terms of subcontracted, auspicing, partnership or similar arrangements.

## Scope matrix

	TAFE and other government providers*	Community education providers	Other registered providers
Commonwealth and state funding	✓	✓	✓
Domestic fee-for-service	✗	✗	✗
International fee-for-service	✗	✗	✗

\* Multi-sector higher education providers are reported as TAFE and other government providers.

4. The National VET Provider Collection collects enrolment and completion details of VET students and their programs. While the national database is essentially cross-sectional by year, there is enough information to match data over a number of years for individual VET students and the programs they undertake. Obtaining such a longitudinal dataset allows the use of mathematical techniques that rely on conditional probabilities to then estimate completion rates.

## Methodology

5. A VET program completion rate is simply defined as the proportion of VET programs that commenced in a given year that are eventually completed. It requires knowledge about when a student commences a program and, ultimately, when a student exits (such as successfully completes or discontinues). Unfortunately, the time taken for a student to exit a VET program varies, in line with factors such as Australian Qualification Framework (AQF) level and mode of study. Consequently, for any given cohort of commencing students, there is a natural time lag before programs are completed and, consequently, a completion rate becomes 'final'.

A further problem is that once programs finish (either completed or withdrawn), completions are not always reported immediately to the National VET Provider Collection, meaning that completions occurring in a given year or quarter might take another year or longer to be reported. Not surprisingly,

the longer we wait, the more accurate the completion rate becomes, although, as time goes by, the data become less relevant, making the information less useful for performance evaluation. While the direct approach of tracking programs from start to finish is adequate for tracking historic observed actual rates of completion, the need remains to derive projected completion rates for the most recent years.

6. To overcome this issue, NCVER has derived a methodology for estimating projected program completion rates using data from the National VET Provider Collection (outlined in *The likelihood of completing a VET qualification: a model-based approach*, available at <http://www.ncver.edu.au/publications/2272.html>). This approach uses information about program enrolments over a three-year window (centred on the year of interest); together with the theory of absorbing Markov chains to derive the probability that a commencing VET program enrolment will eventually be completed.

The advantage of Markov chain theory is that it has the property that the probability of an entity 'transitioning' from one status to another in successive time periods is not dependent on past transitions. This means we can use knowledge of the 'status' of program enrolments across successive years to predict the program completion rate without having the full history of all program enrolments. Another advantage of the methodology is that it can be readily applied to subsets of the data based on student demographics or attributes of the training.

7. In 2016, NCVER reviewed the methodology and its validity for estimating projected completion rates for government-funded VET programs, (see *VET program completion rates: an evaluation of the current method*, at <http://www.ncver.edu.au/publications/2898.html>). The review concluded that the approach is reliable and aligns well with observed actual rates of completion for historical estimates, also making a number of recommendations for its improvement and the future publication of completion rates, which have been adopted in this publication. These improvements are:
  - publishing the projected rates of completion for the most recent three years and observed actual rates of completion for prior years, with actual rate figures in bold. The number of program completions, and therefore rates of completion, takes four years after commencement to stabilise (that is, where the change in observed actual completion rates becomes negligible compared with subsequent data collections).
  - defining a program's commencing year as the year it first appears in the National VET Provider Collection, rather than using the commencing flag variable, which increases the accuracy of the projected rates, with these rates aligning more closely with observed actuals for all but the most recent years.
  - taking account of programs that may be superseded over the course of a student's training, to improve the accuracy of both projected and actual rates of completion.
  - allowing the three-year window used to project VET completion rates to be expanded when subsequent collections become available.
8. Projected completion rates for the latest year of activity are likely to be overstated due to the assumption of continuing students in the forecast calculations. Over time, where there is no record of training activity in subsequent years, these students would be expected to be removed from calculations. To account for this, projected completion rates for the most recent year have been adjusted using direct standardisation. While this has reduced the bias, further refinements to the methodology may be warranted.
9. This publication is restricted to VET program enrolments in AQF programs — certificate I level and above. Enrolments in non-AQF programs (secondary school-level programs, non-award programs and programs not identifiable by level) are excluded from the analysis, as the concept of completion is problematic.

## Definitions and assumptions

10. It is necessary to define the four states of a VET program enrolment in terms of the enrolment and completion data in the longitudinal dataset. Details pertaining to how the student's transitioning 'status' is defined is available in *The likelihood of completing a VET qualification: a model-based*

*approach*, <<http://www.ncver.edu.au/publications/2272.html>> and further explained in *VET program completion rates: an evaluation of the current method* <<http://www.ncver.edu.au/publications/2898.html>>.

### Low subpopulations and variability of completion rates

11. Program completion rates shaded green are based on subpopulations of less than 1000 and should be interpreted with caution. (The subject load pass rates are not affected.) The relatively high variability of these rates across years is due to the small subpopulations. The supporting Excel document, available from <<http://www.ncver.edu.au/publications/2878.html>>, provides subpopulations for all the different tabulations in this publication.



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